

SOUND CHEMICALS MANAGEMENT: Making Good Choices For A Better Future

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Editorial



To you our esteemed readers, once again I welcome you to yet another issue of our very educative magazine that we produce annually...

To you our esteemed readers, once again I welcome you to yet another issue of our very educative magazine that we produce annually. We must admit that chemicals are part of our lives since we use them for different purposes in our lives. However, it is sad to note that every year a large number of our people are injured or die as a result of exposure to both man-made chemicals and naturally occurring toxins. Very many toxic chemicals are widely used in several unsafe ways. These chemicals are poorly transported, handled, labelled and stored.

In this issue of our magazine, we lay emphasis on the many things that we do without knowing that actually they cause harm to our health or to the very environment on which we all depend. Incidentally, many of these chemicals are found in some of the consumer products that we least expect to be of any harm to us or to the environment.

Today even where communities know the harmful aspects of some of the chemicals they use, it is common practice for them to ignore key guidelines and practices for wise use. For example the transportation, use, storage and disposal of highly dangerous and toxic substances such as mercury, acids and cyanide among communities with the least knowledge on how to best handle them has often created a potential for major chemical disasters. Continued abuse or misuse of chemicals in our day to day lives may lead to irreversible damage not only to our lives but to the environment as well.

I must also say that it is not easy to refute the fact that most exposure to acute and chronic hazards to people occur because of lack of awareness among the public on the potential risks arising from some chemicals. Creating awareness on these risks of exposure to harmful

chemicals can create such an amazing impact on the sound management of chemicals. Undoubtedly, awareness is such a strong tool towards effective use and management of chemicals.

Finally, even with no clear and well defined laws to protect you as a consumer, what you need to know is that you are gifted with the opportunity of making that important choice that can save you and the environment. The type of chemical or consumer product that you choose to use is very important for your health and the environment and it is the reason why businesses are determined to go far and wide to persuade you. Remember, the choices you make today is not only about you but it a choice for you and those yet to come.

I wish you good reading and practicing.

Frank Muramuzi
Executive Director - National
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FAKE DRUGS ON THE MARKET: WHO CARES ABOUT THE FATE OF CONSUMERS?

By Kamese Geoffrey

Sale of counterfeit drugs; or call them fake drugs, has been growing. Many of these counterfeit drugs are usually passed undetected while others are smuggled into the country due to weak regulations and the fragile borders. According to the World Health Organization (WHO), about 100,000 deaths per year in Africa are linked to counterfeit drug trade. A growing body of academic research has shown that fake pharmaceuticals are a serious problem in sub-Saharan Africa and that bogus drugs can kill. Studies undertaken by infectious disease researchers, including one published in the Lancet medical journal, say that up to one-third of malaria drugs worldwide are fake or substandard. International health experts have in the past warned of an increasing health crisis in parts of Africa because of an influx of counterfeit medicine from Asia that has created a mayhem in the treatment of diseases such as malaria.

A fake or counterfeit drug is any substance that is packaged or marketed in a deceptive manner. Such medicine; among other things, is deliberately and fraudulently mislabeled and therefore, one of the greatest challenges associated with most counterfeits is that they always almost resemble genuine items; including the form, packaging and labeling.

It has been noted that a significant portion of counterfeit drugs do not contain any active ingredient,

may have herbal ingredients, animal parts or contain other chemicals, which may be toxic. Most counterfeit drugs involve tablets, capsules and liquids that look like the real drug or are packaged to mimic genuine items. According to a study published by the Lancet in 2012, the detection of counterfeits has become more difficult over the years, because of the “counterfeiters’ increased ability to reproduce holograms and other sophisticated printing techniques.” Some even add active ingredients that pass quality test controls but don’t provide any benefit to the user.

Definitely the market for antimalarial drugs is very high; more especially in the rural parts of Uganda where malaria is the number one killer disease and the prevalence of many other diseases is very high. This makes it very possible for counterfeit antimalarial and antibiotics to penetrate the market and pass unnoticed. Such fake or counterfeit drugs are then sold to unsuspecting consumers.

Some counterfeit drugs contain active ingredients in varying concentrations; some are usually significantly low while others are significantly high and can cause very serious adverse effects. Because their manufacture is not well regulated, some counterfeit drugs are manufactured in very unhygienic conditions and may contain dangerously high levels of pathogenic bacteria or fungi. Other substandard, fake or bad drugs have no active ingredients or contain other chemicals that may



Fake Drugs: Avoid drug shops which do not have well qualified medical personnel. Source: Counterfeit Product Alert ®

be of no therapeutic value or are of no relevance for the effective remedy of the condition that is being treated and may therefore accelerate the progression of the disease instead of receding it. With serious health conditions, this can prove fatal. Counterfeits that contain other toxic substances can cause serious side effects or may even result into poisoning which may be detrimental to human health or could be fatal. Also important to note is the fact that some counterfeits may be genuine products but which have expired and they may have been repackaged with new expiry dates.

Year in, year out Ugandans have been warned about fake drugs on the market. Unfortunately however, by the time a warning is passed already several unsuspecting and innocent Ugandans have fallen victims to unscrupulous business people. Many innocent Ugandans are

frequently faced with the risk of consuming medicine that is unfit for treating their ailments and at times with the potential of inflicting more complex medical conditions; some of them very peculiar in nature. The prevalence of substandard, fake or bad drugs has contributed to the rise in drug-resistant strains of diseases like malaria and tuberculosis. It is for this reason that substandard, fake or bad drugs are not recommended for treatment of any human medical condition and should be fought with every effort. Such medicines are indeed one sure and deliberate way of frustrating government's efforts of fighting against very serious and severe diseases; such as malaria which is the number one killer in Uganda.

Counterfeit medicine is not only harmful to unsuspecting consumers but it is also very exploitative since the consumers do not actually get value for money. In



You can never tell whether your next dose of medicine will be fake, packaging and labeling of bad malaria drugs look almost identical to the real ones (Photo Source: Kathleen E. McLaughlin, Pulitzer Center, 2013)

...we cannot squarely blame it all on NDA neither can we blame it on government alone. The porous nature of Uganda's borders also have a significant role they play in this illicit trade...

In addition, it is undoubtedly true that the cost of medicines in Uganda is an instrumental factor in determining the choice of consumers, since most people pay for their treatment directly from their pockets. It therefore goes without saying that the poorest of the poor are particularly vulnerable to substandard, poor, fake and counterfeit medicine making them more vulnerable to severe diseases.

The presence of poor quality drugs on the market does not only make communities lose hope in the medical system but it also makes them lose confidence in the regulatory system as well.

However, some of the unanswered questions include; how do counterfeit medicines reach the Ugandan market and why do they pass entry into the country? While the National Drug Authority (NDA) has always come out to fight the perpetrators of counterfeits, we continue to see more and more of them on the market. One would rightfully argue that there is an element of negligence at different levels within the relevant institutions or even at its worst to consider corruption among the outstanding obstacles.

The recent focus by government to trading with China and India which are the main sources of the many counterfeits may also be an issue. Several recent studies have warned that, as many as one-third of malaria drugs in Uganda and Tanzania are fake or substandard, with most believed to originate from China or India. The indifferent trade attitude with China is turning Uganda and its pressing health problems into a free-for-all for nonconformist manufacturers. For example, Metakelfin (Pyrimethamine-Sulfadoxine); an official product of Pharmacia India Ltd, was found to be substandard and therefore unfit for malaria treatment.

Unfortunately, poor countries like Uganda cannot easily escape from counterfeits because some of them have managed to beat standards of well-established and renowned health institutions. According to Eric Palmer; a journalist with Pharma Manufacturing Newsletter, some companies making drugs for WHO programs have also been found to manufacture substandard products. Many of these companies are legally established and well recognized so little attention is focused on them. However, most attention on counterfeits is put on

tackling illegal establishments, while down playing the fact that some legitimate manufacturers are also responsible for producing substandard drugs which pose a much greater public health problem. There is need for comprehensive strategies to address counterfeits from illegal establishments as well as those legitimate manufacturers who produce substandard drugs. This will require sufficient laws, regulations and penalties as well as putting in place the necessary institutional framework adequately facilitated and empowered. Current penalties for crime on counterfeits are not strong enough to deter criminals, they need to be reviewed if people's lives; more especially the majority poor and unsuspecting Ugandans, are to be saved.

Finally, we cannot squarely blame it all on NDA neither can we blame it on government alone. The porous nature of Uganda's borders also have a significant role they play in this illicit trade. It is therefore very important for all people to consider themselves as being critical role players in the war against counterfeits.

Consumer Protection Begins with you.



Extensive and unprofessional use of chemicals in agriculture is one way of poisoning unsuspecting produce consumers (Photo Source: Panos Africa)

By Kamese Geoffrey and Betty Obbo

The number of chemicals challenges in consumer products is growing. Some of these challenges eventually translate into big problems to the ordinary consumers. However, beyond these challenges is the overall dilemma of poor management of chemicals among the different chemicals users.

Several chemicals that are used today are very hazardous in nature and could have very detrimental impacts on human lives and the environment. Given their numerous impacts, the uncontrolled use of chemicals in our day today life may have very serious side effects on our lives as well as on other living and nonliving organisms in the environment.

Therefore, despite having numerous impacts human beings cannot live without using chemicals; they are part of us and we can correctly say that we are part of them, since most things that we use in our everyday life; if not all, are derived from chemical constituencies; some of them very complex in nature.

It is these very chemicals that we use; as preservatives in soft drinks and food stuffs, as human medicines that are used to cure

human diseases and as veterinary medicine to treat animals and control vectors, vermin and pests among other things. Some preservatives; like sodium benzoate, when taken in excess may be hazardous to human health. Preservatives are the substances added to food to prevent decompositions by microbial growth or undesirable chemical changes.

There are many preservatives which are commonly used in food industries including benzoate group, which is used as bacteriostatic and fungistatic in acidic food and drink such as vinegar, carbonated drinks, jams, fruit juice, and condiments.

The poor use of chemicals in agriculture could result into soil infertility. This is because some chemicals may kill both the micro and macro organisms which help in the breakdown and aeration of soils. Some of these chemicals may destroy the very essential bacteria that help in nitrogen fixing into the soil or the very insects, and rodents that are essential for breaking down the soils.

The use of chemicals without adequate protection could result into some of these chemicals coming into contact with our body parts and eventually percolating deep into our skins. By these chemicals coming into contact with our bodies such chemicals

could be very harmful to our lives. It is common practice farmers in rural areas were not to use protective gear and were therefore exposing themselves to the negative effects of chemicals; that is to say as they kill the pest so are they effectively killing themselves.

Human activities produce very harmful chemicals into the atmosphere like Persistent Organic Pollutants (POPs). POPs are a group of compounds that are known for their toxicity, persistency in the environment and for their bioaccumulation in nature. For example POPs like DDT will leave traces in blood even after long periods of time of stopping their use. POPs bio-accumulate in the food chain and pose a risk of causing adverse effects to human health and the environment. POPs "love" to stay in fatty parts of our bodies where they keep accumulating and they are carcinogenic.

The accumulation of POPs in our bodies can be very harmful since; like any other chemical, one would die is a lethal dose is attained. POPs pollution in humans can also lead; headaches, mental disturbances, stomach complications and a ray of cancers. POPs can either be produced intentionally or unintentionally. For example, POPs are produced intentionally in the following ways; burning of plastics and polyethene

Mind the Salads you eat, they could be from that irresponsible farmer who does not follow the directions of use on the labels of the chemicals
(Source: Kamese - NAPE)



bags and spraying of POPs like DDT among other things.

Ultimately, all these chemicals end up in the environment and affect us and other things in the environment in one way or the other. Some of these chemicals are known to us while others remain unknown to us. However, what is important to note here is the fact that many of these chemicals have significant impacts on our health and on the environment in which we live. Most these chemicals could also have severe impacts on human health and on the environment and these impacts can include; diarrhea, coughing, sneezing, persistent headaches and at its worst they could lead to death.

The environment is a system which must be respected in its own right. By definition, a system is a set of objects or organs working together in harmony to perform certain functions and therefore everything in the environment or ecosystem has an important role to play and the damage of one part of the ecosystem affects all the other components.

Nature respects the law of conservation of energy, which states that the total energy of an isolated system remains constant. Furthermore; the law states that energy can neither be created nor can it be destroyed, but it transforms from one form to another; for instance chemical energy can be converted to kinetic energy.

This means that the energy that is stored in organisms within the environment is not destroyed when such organisms are destroyed but it just changes form. For example when a tree is cut its energy is never destroyed but it changes form into heat when burnt and carbon monoxide and carbon dioxide that goes into the atmosphere.



What we need to emphasize here is that, there is always an interaction between living things with living things as well as an interaction between living things with non-living things.

Some of the Ways to help Safeguard against harmful chemical Products:

One of the most important way of safeguarding oneself against harmful chemical products is to first of all be conscious about the different products that use and to know the chemical constituents in the products that you use. Consciousness about the possible ways through which chemical poisoning on our health and damage on the environment can occur and the possible ways through which they can be minimized is very critical. By and large, chemicals risks can be minimized by;

a) Strictly adhering to prescriptions of use:

The major challenge to sound use of chemicals is the lack of compliance to prescriptions provided by qualified personnel or prescriptions found on labels of chemical container. People who use chemicals need always to follow user instructions as provided by qualified persons or as guided by the user's guide to avoid administering under or over dose because chemical substances must be used or administered in their right proportions.

b) Practicing sustainable agriculture:

Farmers can successfully practice sustain-

able agriculture practices. Sustainable agriculture refers to agricultural practices that don't compromise soil fertility through intensive or extensive use of agrochemicals and other bad practices. Sustainable agriculture provides for wise and successful agriculture practices that have the potential for providing equal opportunity to future generations to successfully grow their crops. Sustainable agricultural practices involve the use of practices such as organic farming and promotes the wise use of chemicals while emphasizing less use of very toxic chemicals on farm.

c) Avoiding use of chemicals in unlabeled containers:

Chemical substances in unlabeled containers should at any one time be avoided as using chemical substances that are not labeled can be very harmful since it is always very difficult to know the type of chemical one is handling, the ingredient involved, the right dosage required, the safety precautions required and when the chemical expires. Inadequate information on any given chemical product can lead to chemical accidents, poisoning, side effects or undesirable results.

d) Avoiding extensive and prolonged Use of chemicals:

Although insecticides, pesticides, herbicides and fungicides; among others, seem to have become easier to use on farm today, if not wisely used they could result in very undesirable results. Some of the chemicals that we use may end up killing

some of the most valuable organisms; both micro and macro, in and above the soil. For example, to avoid damaging or "killing the soil" it is practically wise; whenever possible, to carry out weeding manually or mechanically; instead of extensively using herbicides, since this preserves the soil. Excessive use of chemicals could also lead to excessive chemical residues that could result into undesirable health impacts to the consumers of the crop.

e) Use an integrated pest management or control method:

While farming practices indigenous may be losing position in modern society, elders can still play a vital role in guiding society on sustainable agriculture practices today because they have seen it all and have over generation used some better farming practices that have helped society sustain its soils and the environment in general. Consulting elders is one way of preserving good knowledge and practices that have been successfully used over the years.

Since chemicals cannot be eliminated from our lives, it is very essential to learn to utilize them more wisely for the safety of our lives and for the good of our environment. A conscious community is very vital and therefore the need to carry out deliberate awareness campaigns to promote knowledge on good practice on sound management of chemicals in our communities. Time is now for us to act as tomorrow will be too late for us to make a difference.

Lead Poisoning: The Public is uninformed poisonous properties of in Consumer Products such as lead's paint.

By Peruth Atukwatse

This year Uganda joined the rest of the world to commemorate the International Lead Poisoning Prevention Week of Action (ILPPWA) under the theme, "Lead-Free Kids for a Healthy Future." The theme focused on highlighting the importance of the many ways parents can reduce a child's exposure to lead and prevent its serious health effects. The National Association of Professional Environmentalists (NAPE) with support from IPEN created awareness about the harmful aspects of Lead in selected schools. NAPE conducted lectures to pupils in primary schools on Lead and Lead poisoning and the major pathways for exposure to lead poisoning including paints, batteries, lead contaminated toys and lead contaminated dust among others.

Lead is a metal that exists naturally in the Earth's crust and is present everywhere in the environment. Lead is a highly toxic substance, exposure to which can produce a wide range of adverse health effects. Both adults and children can suffer from the effects of lead poisoning, but childhood lead poisoning is much more frequent. Over the many years, tens of millions of children have suffered its health effects. In 2008 alone, an estimated 310,000 children under the age of six had too much lead in their blood.

There are many ways in which humans get exposed to lead: through deteriorating paint, household dust, bare soil, air, drinking water, food, ceramics, home remedies, hair dyes and other cosmetics. Much of this lead is of microscopic size, invisible to the naked eye. More often than not, children with elevated blood lead levels are exposed to lead in their own home.

Lead-containing paint is still being widely used in Uganda and more than other 40 countries in the world, causing terrible harm, particularly to children. While lead paint that is in intact condition does not pose an immediate concern, lead paint that is allowed to deteriorate creates a lead-based paint hazard. It can contaminate household dust as well as bare soil around the house, where children may play. In either situation, a child who comes



Always ask whether the paint you are going to buy contains lead or not, you could expose your children to harm unknowingly.

Source: <https://merrydays.wordpress.com/category/uganda/page/3/>

into contact with lead-contaminated dust or soil is easily poisoned. All it takes is hand-to-mouth activity, which is perfectly normal for young children to engage in. All it takes is the lead dust equivalent of a single grain of salt for a child to register an elevated blood lead level.

Adults may be exposed to lead when lead paints enter the human body via ingestion, inhalation and skin absorption, eating and drinking food or water containing lead or from dishes or glasses that contain lead. They may also breathe lead dust by spending time in areas where lead-based paint is deteriorating, and during renovation or repair work that disturbs painted surfaces in older homes and buildings.

Working in a job or engaging in hobbies where lead is used, such as painting and decorating, plumbing, construction work, and car repair, can increase exposure as can certain folk remedies containing lead. A pregnant woman's exposure to lead from these sources is of particular concern because it can result in exposure to her developing baby. Anytime a surface containing lead paint is worked on, the debris and the dust created by the work must be contained and thoroughly cleaned up, and those doing the work must have adequate

personal protection to prevent them from breathing in any lead dust generated by the work. As lead can exist as an airborne contaminant, all people are exposed to certain amounts of lead through breathing.

Children under the age of 6 years old are at an increased risk for lead exposure, due to their rapid rate of growth and their tendency to place toys, their fingers and other objects in their mouths that could contain lead or leaded dust, and thus are more prone to ingestion of lead paint chips and house dust or soil that may contain lead particles.

Lead is particularly dangerous because once it gets into a person's system; it is distributed throughout the body just like helpful minerals such as iron, calcium, and zinc. And lead can cause harm wherever it lands in the body. In the bloodstream, for example, it can damage red blood cells and limit their ability to carry oxygen to the organs and tissues that need it, thus causing anemia. If young children live in the home and a parent works with lead, they should be tested.

Pregnant women are very vulnerable to lead poisoning. When a pregnant woman has an elevated blood lead level, that



Lead Awareness campaigns: NAPE has been raising awareness on lead in paint in schools since children are the main victims of lead poisoning.

lead can easily be transferred to the fetus, as lead crosses the placenta. According to scientists, pregnancy itself can cause lead to be released from the bone, where lead is stored—often for decades—after it first enters the blood stream. Once lead is released from the mother's bones, it re-enters the blood stream and can end up in the fetus. In such cases, the baby is born with an elevated blood lead level.

There are many different health effects associated with elevated blood lead levels. Young children under the age of six are especially vulnerable to lead's harmful health effects, because their brains and central nervous system are still being formed. For them, even very low levels of exposure can result in reduced IQ, learning disabilities, attention deficit disorders, behavioral problems, stunted growth, impaired hearing, and kidney damage. At high levels of exposure, a child may become mentally retarded, fall into a coma, and even die from lead poisoning. Lead poisoning has also been associated with juvenile delinquency and criminal behavior. In adults, lead can increase blood pressure and cause fertility problems, nerve disorders, muscle and joint pain, irritability, and memory or concentration problems. It takes a significantly greater level of exposure to lead

for adults than it does for kids to sustain adverse health effects. Most adults who are lead poisoned get exposed to lead at work. Occupations related to house painting, welding, renovation and remodeling activities, smelters, firing ranges, the manufacture and disposal of car batteries, and the maintenance and repair of bridges and water towers, are particularly at risk for lead exposure.

Always make sure your children wash their hands before eating and check your ceramic utensils to be able to minimize the risk of contamination. Some pottery may contain lead that can leach into food and drinks. Parents should make sure that their children avoid playing in bare soil areas unless if they know that such areas are lead free.

The constitution of Uganda, provides for a right to everyone to live in a safe and healthy environment. However, premises that contain lead-based paint hazards are inherently unsafe places to live for any Ugandan. Unfortunately, the Uganda National Bureau of Standards (UNBS) and other relevant institutions who control and regulate chemical compounds have not done much to raise public awareness on this issue to help ensure that people live in

a safe and healthy environment.

For the safety of our children and for our own safety, we need to always ask for paints with no added lead and we need encourage local markets to stock paints with no lead, stressing that producers should indicate ingredient labels to help consumers know the composition of the paint. In addition, it is advisable that all women receive guidance on preventing lead poisoning before and during pregnancy.

The National association of professional environmentalist through its chemicals management programme has been raising awareness on issues of chemicals and has signed on several petitions to stop selling of lead paint lead however this will require more support from the public and government.

The governments should tighten controls on the disposal of lead and contaminated waste. Home renovators and professionals should be educated about the dangers of paint containing lead and providing advice on the safest ways to deal with it.

This is a dangerous toxicant that shouldn't be on the market at all. Tell and tell a friend to speak up on "No to lead paints."

CONSUMER PROTECTION IN UGANDA: WHICH WAY TO GO

By Kamese Geoffrey

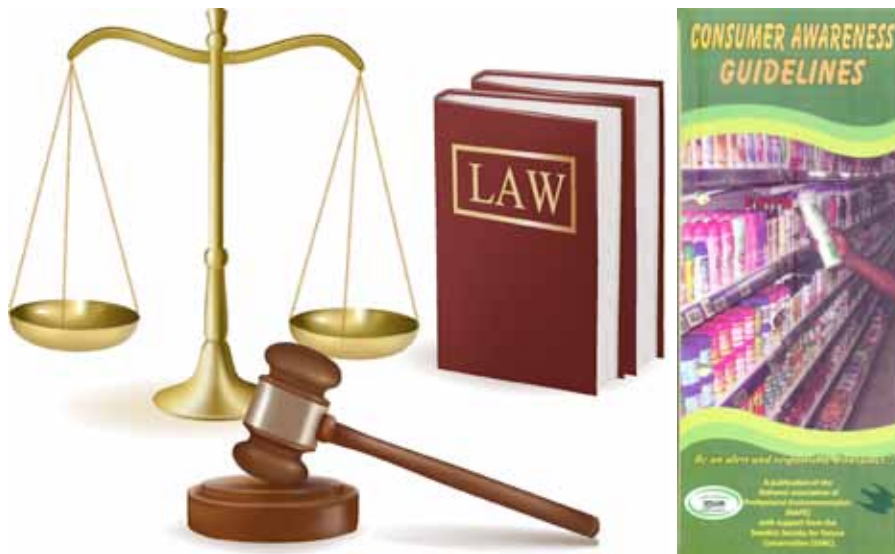
Consumer protection measures are very important and their aim is to equip consumers with knowledge about the products and services they buy so that they can make informed decisions about their purchases.

Consequently, any consumer protection legislation should assist consumers to avoid deceptive or unfair trade practices in trade and commerce in Uganda. In this vein such legislation is expected to guide sellers on how to conduct their business; and provide information to consumers on the goods and services they are buying and remedies to consumers who are injured by unfair or deceptive practices.

As early as 2004, Government of Uganda started working on putting in place a consumer protection law. However, for all these years this effort is yet to be translated into a consumer protection law. Up to date, there is no legislation in Uganda dealing specifically with consumer protection. There are numerous pieces of fragmented legislation, which deal with certain aspects of consumer protection. All this is happening at a time when the country is faced with a number of consumer products some of them with chemicals that are very harmful to human health and to the environment.

Some of the chemicals in the products on the market have severe impacts on human health; such as diarrhea, coughing, sneezing, and persistent headaches, and may damage the environment. The Uganda Law Reform Commission report of 2004, notes that "commercial justice system in Uganda has fared badly because commercial life has been encumbered for several decades".

Different people define a "consumer" differently but in this case we shall define a consumer as a person who buys or agrees to buy goods from another person for his/her use. Consumers may include any user of goods or consumer product other than the person who actually buys the goods from the supplier. A consumer product is generally any tangible personal property



Source: NAPE, 2014

for sale and that is used for personal, family or household purposes.

A Good consumer product helps protect people's health and the environment. Consumers have a right to be protected from harmful products and therefore they must be informed about what risks the product they find on the market has on their health and the environment.

The subject of consumer protection, particularly chemical safety from commercial products, does not clearly appear in the mainstream of concerns of the country's activity programmes at this moment in time. It would seem as if the subject of consumer protection is marginalized and out of focus.

This is possibly because;

- Vital information on what chemicals are present in the products on the market, who is storing them, in what premises, incidence of their health outcomes and levels in products, the working and general environment is grossly inadequate.
- Owing to financial limitations, the administrative and technical measures necessary for consumer safety are scanty, inadequately manned and inadequately equipped.
- Legislation on importation of consumer products is not explicit and is largely

fragmented such that harmful consumer products and extremely dangerous chemicals have found their way onto the Ugandan market without corresponding checks.

- The importation of harmful consumer goods today has occurred without corresponding management strategies to minimise the risks associated with their consumption.
- The control of use of hazardous chemicals in consumer products is not easily perceivable i.e. the subject of chemical safety is multi-disciplinary in nature and different government departments have inputs to it. These inputs have been uncoordinated and restricted to the extent that consultations are lacking and control measures end up being frustrated.
- The majority people in Uganda are largely unaware of the dangers associated with the chemicals present in the products they use and are ignorant of their roles in the control of the use of these products.

Always check on the expiry date of the product you purchase as some may have expired or their expiry dates adulterated

Some of the risks consumers; face today in their everyday life, are not limited to but include;

- a) Buying sub-standard quality goods
- b) Buying potentially harmful products
- c) Being charged higher prices for a product
- d) False and duplicate (counterfeit) items sold
- e) Adulterated food, chemicals and other items

Do consumers have any rights?

World over consumers are protected from unscrupulous business people under different laws. Even here in Uganda, laws exist that are aimed at protecting consumers from fraudulent or unethical business practices, misleading advertisements, and defective products. It goes without saying that government working through its numerous institutions is supposed to protect its people against harmful consumer products and unethical conduct from the different business enterprises. Therefore as a Ugandan, you have a right to;

- Be protected against the marketing of goods and services which are hazardous to your life and property
- Safety; a consumer has the right to demand for safe goods.
- Choose the good among a variety of goods which you like.
- Be informed and to demand information regarding a certain good stating its quality, quantity, potency, purity, standard and price so as to be protected against unfair trade practices
- Be assured; wherever possible, access to a variety of goods and services at competitive prices
- Be heard and to express yourself in jurisdiction if you have been cheated and be assured that your interests will receive due consideration at appropriate forums
- Seek redressal, you have a right to seek justice if you have been cheated by someone or treated to unfair trade practices and unscrupulous exploitation
- Consumer education, you have the right to make yourself aware of consumer 'evils' in the society

Consumer protection laws serve to protect the interests of consumers. These laws help in the collaboration with others in the management of harmful products by taking appropriate action against products with health risks and safety hazards associated with the consumer products.

Consumer protection laws help in;

- Supporting the development of safety



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standards and guidelines

- Enforcing legislation by conducting investigations, inspections, seizures and prosecutions
- Testing and conducting research on consumer products.
- Providing importers, manufacturers and distributors with hazard and technical information
- Publishing product advisories, warnings and recalls
- Promoting safety and the responsible use of products.

On its part, Government has a duty and responsibility of developing a strategy for re-orienting national and local efforts to address consumer protection problems in a comprehensive, coordinated and integrated manner as a basis for achieving the overall policy goal of "sustainable socio-economic development." In this direction therefore, government has to do the following;

- Provide training to major stakeholders; including NGOs, in relevant areas with a view of mobilizing participation, capability and support in the implementation of activities
- Promote awareness about regional and global issues concerning consumer products and hazardous chemicals. An awareness campaign and information dissemination programme should be put in place targeted at vulnerable groups.
- Setup a coordination mechanism to enable all stakeholders to effectively participate in elimination of exposure of children to chemical hazards arising

from consumer products

- Mobilize communities through awareness campaigns, to remove children from handling dangerous consumer products
- All the departments of Government responsible for protecting the consumers against harmful products should be well coordinated within an appropriate institutional framework
- Responsible institutions should increase communication and collaboration with counterparts in other countries in the region through existing sub region and regional networks or working groups on issues of common interests;
- Promote the ratification of appropriate and relevant regional and international conventions and protocols and promote the enactment of domestic legislation to implement the said conventions;
- Undertake continuous and periodic evaluation of all aspects of engagement of hazards in the use of hazardous chemicals including production of regular profiles.
- Carry out more research especially residue analysis to establish the actual state of entry of chemicals into the environment.

Chemical Safety requires a multi-disciplinary approach. At national level this cooperation crosses through different institutions and ministries of government. A successful solution to chemical safety must strengthen intersectoral cooperation.

Consumer protection laws play a very important role in laying down and enforcing rights of consumers. Laws on consumer protection prohibit unfair or misleading trade practices such as use of false weighing or measuring equipment, deceptive advertising, etc.

They also set standards for the quality, safety and reliability of many goods so that failure to comply with these standards can result in legal action against the seller. Correspondingly, the main thrust of the effort today should be put in capacity building with a view of strengthening the horizontal and vertical institutional interphases for the management of hazards arising from consumer products.

This can best be done though coordination, awareness, advocacy, training, and equipping the participating institutions.

WOMEN'S VOICE CRITICAL FOR EFFECTIVE CHEMICALS MANAGEMENT

By Shillar Kyomugisha
Gender and Food Security Officer

There is a growing demand for use of chemicals on the earth's planet. Chemicals are used in daily lives especially in the manufacture of majority consumer products such as food-stuffs, agro-inputs, cosmetics, drugs among others. They are also used in the extraction and processing of minerals- such as oil and gold. Chemicals if not properly can cause potential harm to all forms of life.

Whereas there are legal instruments and policy guidelines both at international, regional and national levels to regulate use of chemicals, chemicals continue to be misused and consequently causing harm. The reasons for this, range from; lack of adequate budgets to enforce the regulations to corruption.

There is also generally lack of adequate knowledge on the proper use and disposal and potential harm of certain chemical substances. This has been evidenced in most rural areas surrounding mining areas; a case in point is the Mubende, Karamoja gold mining areas and around Katwe salt lake in Uganda. Artisanal Miners in these areas use bare hands in gold and salt mining/ extraction using mercury and majority of these, are women.

Important to also note is that majority of the population in Uganda especially women use skin lightening cosmetics containing harmful chemical substances, particularly mercury and hydroquinone. Traditionally, women are responsible for food production in society and as such, they

have always fallen victims of agro-chemical contaminations in their gardens and plantations.

Additionally, the biological make of women makes it easy for chemical ingestion and also certain roles such as the reproduction makes the women more vulnerable to chemical contaminations.

Also, the fact that women are always taken to be less energetic compared to their male counterparts, plus their inability to negotiate for mega salaries especially majority rural women, has made it easy for employers especially in agro-production - where there is extensive use of chemicals (for example flower farms, tea plantations among others) prefer employing them and hence exposing them to harmful chemicals.

Important to also note is that in terms of access to information regarding chemicals safety, there is likelihood that more men are able to access it than women.

Additionally in Uganda, there are generally few women engaged in debates and discussions on chemicals management.

Despite efforts by government to support girl child education, majority women especially in rural areas are still not able to read and write. As a result, majority of these women have remained uninformed on issues of chemicals safety and consequent harm on their bodies.

There is an urgent need to amplify women's voice to create understanding/ awareness on the potential dangers of chemi-



Source: Effects of bleaching Creams, <https://yeyeolade.wordpress.com/2008/08/26/effects-of-bleaching-creams-are-deadly-from-blackbeautyandhaircom>

cals from various sources. There is need to bring more women on board to discussing issues of chemicals safety. Besides written chemicals safety information, there is need to tailor activities such as drama and other demonstrations that best suite majority rural women to understand and educate others on dangers posed by some of the chemicals. Government should put a ban on importation and use of consumer products containing Very harmful chemical substances such as hydroquinone and mercury among others. This will help protect unsuspecting women who use them. Government should abolish use of mercury in extraction of some minerals such as Gold

and support/subsidize alternative technologies.

Civil society, government and other stakeholders should support/educate communities especially women on alternative livelihood options so as to minimize women's engagement in activities that expose them to chemicals contamination.

Lastly, women should take precaution of the chemical contaminants in most consumer products used in their daily lives and they should take lead in chemicals safety advocacy, lest they continue to be majority victims of chemicals harm and contamination.

Protect yourself from hazardous substances at home and at workplace

By Jennifer Amejja

Always remember that dangerous chemicals are not only those items that are directly marked on with a “danger” sign. There are a number of items which are beneficial for use at home and at workplace which can be harmful to human health if not properly handled.

These can be in any physical form like solids, liquids and gases and this can determine which way they enter our bodies. The solids can be accidentally ingested with food and who knows what can happen. The liquids can enter the body through the skin causing skin irritation burns, and eye injury, just to mention a few. The gases can be inhaled. Therefore there is a need of taking precaution when using such items at home at work place. These can include cleaning products, disinfectants, bleaches, paints and their thinners, grease, photocopier and printer toners and many others. These are products that we need to accomplish our work but they can also prove a danger to our lives if not properly handled.

Take for example, the printer and photocopier toners. In the course of printing or photocopying, the machines heat up and the toner emits fumes which can be inhaled by the person handling the machine. These fumes are not healthy and daily work around such an environment may have long-term effects on the person in charge.

At most we need to have protective gear when handling these items, like long sleeved overalls, gloves, nose protection. There is also need to wash hands with water and soap before eating. At home, cleaning products and detergents need to be placed far from children’s reach and away from food stuff to avoid mistaking them for cooking ingredients.

Protection goes beyond chemicals. It also calls for being alert regarding medicines, drugs and foods. Always read the expiry date on any packed items because what is consumed after the expiry date may be dangerous to the body. The impact may be heavier than satisfying hunger one can feel for a short time. It is better to stay hungry for a few hours and prepare a healthy meal than consume expired food and remain worried for the rest of your life. This also goes to perishable foods that are sprayed with chemicals for preservation. Such foods as tomatoes, peppers, apples need to be washed thoroughly before consumption or preparing for cooking.

Good disposal of used items and plastics can go a long way in keeping our homes and workplace safe. There is need to know what can be burnt within our environment and what needs to be destroyed by other means, like use of high temperature incinerators. Knowledge of these and doing things the right way can protect us and those we love including our neighbors from dangerous fumes that can be harmful to life. We therefore need to separate garbage in categories of those that are biodegradable and those that take years to decompose.

We can always recycle, reuse, reduce and replenish our items if they fall under any of these categories and safe to do so.

Remember, to live a better life, we need to be serious and consistent with what we do and cooperate with others too because we don’t always know it all. Protect yourself and others at home and at workplace.



Most commodities offered at special prices may be expired or about to expire always ensure you check on expiry dates

Plastics Age: Environmental and Health Impacts

By Betty Obbo

Almost all aspects of daily life involve plastics - in transport, telecommunications, clothing, footwear and as packaging materials that facilitate the transport of a wide range of food and drinks, dishware, personal care products and medicines.

Other people argue that plastics are versatile, cost-effective, lightweight, strong, durable, corrosion-resistant materials, with high thermal and electrical insulation properties and require less energy to produce than alternative materials such as metal, glass and wood; and can be manufactured to have many different properties, but this does not still make them the best option to have, their good side is far much less than their bad side. Probably there could be considerable potential for new applications of plastics that could bring societal benefits in future, but today, they are a human and environmental threat.

In the last three decades or so, the global production of plastic materials increased tremendously leading to increased supply of plastic consumer products for a myriad of applications. The easy availability of plastic consumer materials, many of which are one-time products has led to increased consumption and presents a big challenge of disposal. Today many societies, world over are grappling with the challenge of managing plastic waste. Plastics are not readily biodegradable in the environment and present health impacts to humans and wildlife.

The environmental and health issues human society faces today in the age of plastics mostly stem from the fact that the impact of the scales of plastic consumption and disposal were not considered until after massive production was well at hand.

To revert this undesirable situation, it will be important to consider alternative products that can deliver similar societal services, and carry out a comprehensive and careful assessment of their life-cycle before going into mass-production.

Secondly, a framework for an efficient and effective sustainable waste management education for communities' should be put in place to address societal behavior.

Plastic Consumer products and the future

The plastic age is not about to end soon. There is much that plastics can contribute to the wellbeing of society. Taking the current speed of technological advancement, there are all indications that life in the next two to three decades will be splendid compared with life today and plastics will indisputably play a significant role in this change.

Plastics will continue to offer considerable benefits for the future. What is needed is to change the current approaches to production, use and disposal which are not sustainable and present concerns for wildlife, human health and the environment. Fortunately, recent research has provided considerable information about the many human health and environmental hazards associated with improper use of plastics.

The solution to a sound plastic era will require a new approach and combined actions from the actors – the industry, suppliers and end-users of plastic products. Consumers must adopt sustainable use and disposal approaches, particularly reducing, re-using, and recycling. The industry must adopt new designs that permit materials reuse and/or end-of-life recyclability. Governments and policymakers must set standards and stringent frameworks, and finance for technological developments and monitoring.



These products may look less harmful in their simple look but their true effect on human health the environment can be enormous

Source: Plastics in every day products

OUTCOMES OF THE BASEL COP 12, ROTTERDAM COP 7 AND STOCKHOLM COP 7 IN GENEVA SWITZERLAND

By NAPE Staff

The twelfth meeting of the Conference of the Parties (COP) to the Basel Convention, seventh meeting of the COP to the Rotterdam Convention, and seventh meeting of the COP to the Stockholm Convention – The Triple COP, convened back-to-back from 4th to 15th May 2015 in Geneva, Switzerland. The meetings included joint sessions among two or three of the conferences of the parties on joint issues. The meetings included joint sessions of the COPs on issues on the agendas of at least two of the three conventions, including technical assistance, financial resources and mechanisms, and programmes of work and budgets.

The theme for the meetings was 'From science to action, working for a safer tomorrow'. The meetings, were attended by about 1,200 participants from 169 countries and they adopted 73 separate decisions, including six identical ones for the three meetings on: International cooperation and coordination, implementation of the integrated approach to financing, enhancing cooperation and coordination among the three conventions, clearing-house mechanism for information exchange, "from science to action", and venue and date of the next meetings of the conferences of the parties.

The substantive issues that were addressed during the meetings include; among others, the listing of new chemicals under the Stockholm and Rotterdam conventions, adoption of technical guidelines under the Basel Convention, and financial and technical support for implementation of all the three conventions. Delegates agreed to ban a number of the most harmful chemicals; for example, several countries voted in favor of global prohibition of pentachlorophenol. Under the Stockholm Convention delegates supported international bans on two other industrial chemicals that harm human health and the global environment: chlorinated naphthalenes and hexachlorobutadiene.

On the other hand, delegates at the Rotterdam Convention failed to list two



Delegates from around the world meeting in Geneva during the triple COP of the Basel, Rotterdam and Stockholm Conventions, Africa still being marginalized.

deadly substances, chrysotile asbestos and a paraquat formulation, despite the fact that exporters would simply have been required to notify and get permission from importing countries. Unfortunately however, during the meeting, India surprisingly rejected the findings of the Stockholm Convention's own scientific expert committee in which they participated.

There was concern over unfair influence by developed countries over the decisions of the COPs. According to Mariann Lloyd-Smith, IPEN Sr. Policy Advisor "That means that a small handful of opposing countries and their powerful industry representatives undermined the treaty with a political decision that disrespects governments' right to know what substances are entering their borders. They simply put their own economic and trade interests before the health and well-being of the global environment and its inhabitants."

The Basel Convention considered e-waste guidelines that would exempt equipment destined for repair from the treaty's hazardous waste trade control procedures, a measure that would open the door to unscrupulous traders claiming all broken equipment as "repairable." The EU pushed

dangerous clean-up standards of 1000 ppm for three toxic flame retardant chemicals widely used in building insulation, upholstery and electronics (HBCD, PentaBDE, and OctaBDE).

In contrast, the waste clean-up limit for PCBs and other substances already listed in the treaty is 50 ppm – 20 times lower than the EU proposal. For the first time, delegates settled on two options for HBCD (100 ppm or 1000 ppm) and two options for PentaBDE and OctaBDE (50 ppm or 1000 ppm). Although the EU pushed a weak standard that undermines the Stockholm Convention, China and Iran pushed for the more protective standards (50 ppm and 100 ppm) that are more consistent with the serious threats posed by POPs.

Despite the great achievements made by the triple COP, to many African delegates a lot more remained to be desired. Many expressed concern that the African "home grown" convention akin to the Basel Convention; the Bamako Convention, was not given appropriate consideration. On the other hand, there was concern that not enough was being done to make finances flow since the implementation of these conventions required finances;

SELF MEDICATION: WHO BENEFITS, WHO LOOSES

By NAPE Staff

Medicines; like any other chemicals, can be very toxic to human life and the environment in general. The handling or consumption and disposal of medicines may require professional guidance which every does not have. Unfortunately however, this is not the case in Uganda where there is a growing trend of people prescribing and administering unto themselves medicine; including those medicines that are very complex. The habit has been going on among people that even do not have any elementary level of education. The practice where lay people; both rural and urban; prescribe and administer medicine to themselves is known as self-medication. Self-medication refers to the practice of using prescriptions or over-the-counter drugs without discussing the symptoms of the disease with a qualified medical doctor. In Self-medication therefore, the individual acts as his or her own physician in an effort to handle symptoms of a health concern. Unfortunately, even without prescription from a qualified medical doctor, people will visit a drug shop or pharmacy and buy self-prescribed medicine it is common practice today that an individual without the prescription of a doctor.

Self-medication may be very dangerous since chances are very high that one may use medicine in an inappropriate manner thereby putting one's life at risk. Because of lack of knowledge of the disease being treated and the correct dosage required or even the risks involved. It is common practice for people not to take sufficient care and precaution while handling medicines because of the false perception that medicine has no harm. This false perception arises from the feeling that we our diseases and their possible cure, yet not everyone is trained or skilled in handling medicines or even in identifying the underlying causes of the symptoms from the diseases they are suffering from and therefore not everyone can correctly determine the diseases they are suffering from and the most appropriate medication that would be required to treat the disease more correctly and the degree of certainty for successful treatment.

Several reasons why people resort to self-medication. However these reasons



It looks much easier to prescribe ourselves medicine but could more complex than we can handle

Source: Inter Press News Agency

may vary one person to another and can depend on one's personal situation. For example, some individuals may be shy to the extent that they are even willing to make attempt to hide their health condition from others; including a qualified medical doctors. Others may attempt self-medication as a way of avoiding to see a medical doctor so as to avoid any associated costs. Several others are ruled by fear of the unknown, they would rather remain with unknown disease than have it known through medical diagnosis.

Depending on the medicine being, situation the risks associated with self-medication may vary from person to person; however, some of the risks may be common to many individuals some of these include;

- Inaccurate diagnosis
- Using inappropriate medications that cause side effects
- Masking the symptoms of a serious condition
- Delaying medical advice
- Inaccurate dosage that leads to accidental overdose
- Mixing medications that are not safe to mix, which may result in legal costs or health concerns
- Risk of abuse
- Risk of developing an addiction or several addictions

In the worst-case scenario, people who carry out self-medication end up facing severe health conditions or even death. Self-medication becomes even more pronounced in rural areas where communities lack proper medical facilities and decide to take the risk of prescribing to themselves medicine. Among rural communities, it is also common that people even go a step further to use on themselves veterinary medicine



Source: Inter Press News Agency

thereby exposing themselves or their loved ones to severe poisoning. Beyond the risks associated with self-medication, a large number of rural communities are also exposed to a higher risk of receiving wrong medical advice from unqualified or fake medical practitioners.

Self-medication can be very dangerous, instead of being your own medical doctor or a fake and an unqualified doctor for your loved ones, it is always wise that you other people experiencing pain, or have any form of discomfort to visit a trained and well qualified medical doctor for proper diagnosis. Self-medications usually delays or denies the sick timely professional medical care. Usually, a delayed visit to a doctor delays timely intervention and complicates the healing process of disease. Always remember that doctors are trained and equipped to accurately diagnose and provide appropriate medical treatment any medical condition or diagnosis. If deemed necessary, a medical doctor prescribes medication along with clear dosage and instructions to prevent overdose or limit the risk of drug dependency. By seeing a doctor, you also minimize the risk of purchasing fake or substandard medicine.

It is the duty of government to protect its people against drug abuse and from unscrupulous people who supply them with fake medicine. Medicines like any other chemicals can be very harmful if not well handled. Not only are they risky in handling but also during their disposal. Therefore, government should make every effort to promote efficacy of medicines but also make sure that appropriate medical care is provided to both rural and urban areas.



NAPE Supports Small Scale Artisanal Gold Miners from Mubende to visit Geita Region – Tanzania

Knowledge and skills sharing as well as good management practices in artisanal gold mining are essential for communities to transit from current insecure mining practices. One needs to know that Artisanal gold mining in Uganda is largely practiced by an informal, unskilled, unlicensed and largely unregulated groups of miners mainly located in rural areas.

Many artisanal mining communities have continued to use crude mining methods just because they are not exposed to better mining practices. It is for this reason that the National Association of Professional Environmentalists (NAPE); with support from the Swedish Society for Nature Conservation (SSNC) organized a Community Learning Tour for members of the Mubende Artisanal and Small-Scale Gold Mining (ASMG) community together with their local leaders to Geita district in Tanzania. The Geita region is renowned for its vast mining experience that dates far back to the colonial era. The tour took place from the 15th – 19th, December 2015 and culminated into a feedback workshop that took place in Mubende district.

NAPE in 2015 launched an awareness campaign in Mubende district against unsafe use of mercury in artisanal gold mining. The intervention follows a study carried out by NAPE in 2014 in Mubende that revealed wide spread unsafe handling of chemicals by the miners. The community learning tour is part of the awareness drive that is aimed at facilitating exchange of knowledge and skills among communities. This campaign is also aimed at raising awareness on the need for sound management of chemicals and their wastes.

The current awareness raising drive is premised on the fact that gold mining in Uganda is increasingly becoming a major income generating activity among many rural small scale holder communities. Reports from the Ministry of Energy and Mineral Development (MEMD) have indicated that gold is widely distributed in many parts of Uganda. For example, gold reserves have been confirmed in the districts of Busia, Buhweju, Bushenyi; Mbarara; Kabale; Kisoro; Rukungiri; Kanungu, Mubende, Moroto and Hoima. All these gold discoveries mean increased mining

The Mubende team that went to participate in the community learning tour at Nsangano Mining Project.

activities; more especially to the less capital intensive and very risky artisanal small scale gold miners. Therefore, many communities across the country are already practicing artisanal small scale gold mining where they are using very crude methods of gold recovery. These poor mining practices end up creating vast open pits, unearts and releases a host of potentially dangerous toxins into the environment; for example, the grinding of rock and ore by gold miners expose to air, water and environment some very harmful toxins that would have otherwise been contained within the rocks. These toxins have the potential of making people and other living organisms sick.

As artisanal small scale gold mining rapidly grows so does the growth in the use of mercury which is used in the amalgamation of gold from the ore. Unfortunately however, most of the mercury used is



Mr. Renatus Nsangano sharing with communities from Mubende on mining at Nsangano Mining Project.

eventually released into the environment through human activities. For example, it is estimated that about 1 to 2 Kgs of mercury are used to process 1 Kg of gold and before it eventually disappears into the environment.

Mercury is a heavy toxic chemical element, it is harmful to human health and the environment. It is persistent in nature and cycles globally and is a renowned neurological toxin that accumulates in the food chain and has potential to travel up the food chain. Hot or warm temperatures increase its metabolic rate and ability of fish to accumulate it. Mercury has both short and long term health and environmental impacts which makes people exposed risk mercury poisoning.

Once released into the environment, mercury travels throughout the atmosphere and settles over land, in oceans, lakes and waterways. It enters water bodies and deposits in different ways including; close and long distance from source or even manifesting itself into global pollution. The three most common forms of mercury; elemental, inorganic and methylmercury, can all produce adverse health effects at sufficiently high doses. Mercury poisoning can result from exposure to water-soluble forms of mercury; such as mercuric chloride or methylmercury, inhalation of mercury vapor, or eating water creatures contaminated with mercury. Mercury in sediments converts into methylmercury (MeHg) and enters the aquatic food chain: fish and freshwater are the major way through which methylmercury uptake by humans occurs.

Mercury has the potential of remaining in the water after the amalgamation process

since it is poured away as waste water without any form of treatment. Mercury also contaminates groundwater. The toxicity from mercury affects the central nervous system, kidneys, gastrointestinal tract and the cardiovascular system.

Globally, there are several concerns over the toxicity and persistence of mercury in the environment since it does not easily break down, it has a long biological half-life of approximately 1-3 years in humans and therefore it has long time impact on humans.

Other related risks of exposure to mercury include:

- Contamination of pregnant women, women likely to become pregnant, children less than six years old and people who consume unusually large quantities of freshwater fish.
- Elemental mercury is inhaled when a vapor is given off when mercury is heated; for example, the burning of gold containing mercury during gold purification resulting into release mercury into the atmosphere.
- Mercury is harmful to human health because it is toxic to the nervous system; the brain and spinal cord, more particularly the developing nervous system of a foetus or young child. And it doesn't necessarily need to take in much mercury.

The effects of mercury can be very elusive, adults exposed to too much methylmercury are usually likely to begin experiencing trembling hands and numbness or tingling in their lips, tongues, fingers or toes. These effects can begin long after occurrence of exposure. At higher exposures, walking could be affected as well as vision, speech and hearing. In sufficient quanti-



Mr Nsangano; sharing on the use of personal protection gear and use of cemented pits when using mercury

ties, methylmercury can be fatal. However, the greatest risk of mercury, is for fetuses and young children because their nervous systems are still developing, they are four or five times more sensitive to mercury than adults. Damage occurring before birth or in infancy can cause a child to be late in beginning to walk and talk and may cause lifelong learning problems. Unborn children can be seriously affected even though the methylmercury causes no symptoms in their mothers. However, interventions are possible and they can be successful.

In addition to mercury, cyanide which is a relatively new chemical in gold mining processes in Uganda is slowly being introduced. Cyanide refers to a group of compounds made of carbon and nitrogen. Cyanide solutions readily bond with gold, silver and other metals, which is why the mining industry uses it. It is a naturally occurring chemical although it is also one of the most known toxic chemicals that require careful and very specialized handling. However, the expertise required to such a toxic chemical among the communities is still lacking.

Cyanide leach mining is now the dominant gold mining method that is used by the hard rock mining industry to extract gold and other metals from the ore. Cyanide makes mining of extremely low-grade ores profitable but creates huge quantities of wastes. The cyanide leach processes for extracting gold is seen as an improvement over the inefficient mercury amalgamation process currently being used in Mubende. According to Golden Hainga the Secretary of the Federation of Miners Association of Tanzania (FEMATA), "Mercury only recovers about 40% of the ore body's gold yet



(ABOVE) Mercury in Artisanal mining: Gold miners use mercury to amalgamate gold but take little or no precautions to protect themselves from its negative impacts



Protection from Mercury: Mr Golden Hainga explaining how a retort is used to while burning gold to prevent pollution from mercury

leaching of finely ground ore with cyanide may recover more than 97% of the ore's gold value." However, even when Cyanide is seen as the most viable substitute to mercury, it is also highly toxic and it is a lethal chemical. Most cyanide solids dissolve in water to produce toxic cyanide gas.

Cyanide poisoning can occur through inhalation, ingestion and skin or eye contact. In general, fish and other aquatic life are killed by cyanide concentrations in the microgram per liter range, cyanide related deaths for birds and mammals may occur at cyanide concentrations in the milligram per liter range. For example, a cyanide spill in Romania on 30th January, 2000 killed thousands of tons of fish and made

a significant portion of the Tisza River watershed undrinkable and hostile to aquatic life. Cyanide leach mining has a profound impact on the environment, human health and wildlife. There is also evidence to suggest that cyanide compounds linger in affected plant and fish tissues and can persist in the environment for long periods of time. Therefore, the release of both cyanide and mercury into the environment can be very harmful to the environment; for example, their release into local waterways may kill fish, harm fish-eating animals and poison drinking water.

The burning of gold to rid it of mercury leads to contamination of air yet most artisanal and small scale miners do not

use any personal protection equipment. Unfortunately, women and children are the main source of labour in artisanal mining but do not wear any form of protection and are grossly exposed to negative impacts of mercury poisoning because of the activities they perform in the mines. Young children work with their mothers and get exposed to mercury poisoning while others are employed in the mines. These mercury intensive activities present the biggest risk of exposure to mercury poisoning among communities. However, Mr. Joseph Balikudembe a local leader who participated in the community learning tour in Bukuya in an interview noted the need for change by the communities saying "there is room for change, we shall work with our people to achieve the level of safety I saw in Tanzania."

In 2013, the Minamata Convention; which is a set of legally binding measures, was put in place to curb mercury pollution. The convention restricts the use of mercury but allows mercury use in artisanal and small scale gold mining while encouraging nations to phase out its use altogether gradually. What this implies is that the use of mercury will have to be done away with altogether and this makes the search for possible alternatives to mercury in artisanal gold mining very critical. Government of Uganda signed the Minamata Convention on 10 October 2013 however it is yet to ratify the convention.

But because artisanal miners have very limited capital, they use very crude method of mining to get gold; many of them not



Cyanide Leach: Mr. Golden Hainga explaining how the

only harmful to the miners themselves but also to the broader community and the environment. This creates the need for raising awareness, improving skills and empowering communities on improved mining. There is also need for deliberate efforts to promote cooperation among miners to facilitate pooling of resources together for improved capital for better investments.

According to Mr Renatus Nsangano, Managing Director of the Nsangano Goldmine Project, government of Tanzania is at the forefront of encouraging local communities to come together and join hands to be able to meaningfully participate in mining. This also a view that is supported by Mr Frank Muramuzi; the Executive Director NAPE, who asserts that, "Mining communities need to be empowered to among other things, organize themselves, acquire basic skills to facilitate positive change and to mobilize the required capital to enable them participate profitably and meaningfully in small scale mining." He also goes on to note that "Communities do not only need skills, they need financial support from government to enable them transit from poor mining practices to improved and more secure mining practices."

Unfortunately, all these impacts are likely to happen among communities who; generally speaking, have low levels of awareness on the sound management of chemicals. Lack of awareness and best management practices or techniques of



Carbon on Pulp (CoP) Process: Workers introducing lime into the earth material containing the gold ore before introducing cyanide

handling mercury and cyanide has resulted into inadequate precautionary measures needed to safeguard people's health and the environment. NAPE believes the community learning tour was a very big step towards influencing positive change among communities and a step towards achieving sustainable development. Com-

munities need to learn from each other and share experiences for their own good and for the good of the environment.



Engaging mining companies: NAPE engaged management and workers of the Tibet Hima Mining Company Limited former Kilembe mines on sound management of chemicals and chemicals wastes



For several years, this contaminated water has been draining into River Nyamwamba without any form of treatment, little is known about its possible impacts.



Exposure of Chemicals in their natural form: Mining activities may result into leaching of very toxic chemicals such leachates may be harmful to human health and to the environment.



The NAPE Staff: Meet the people behind the struggle against chemicals abuse in Uganda – in 2015 the fight against the elimination of lead in paint was one of our major campaigns.



Poor mining practices: Mining tunnels constructed by Gold miners in Mubende are a risk to the miners and pose a long term environmental threat.



Good Practice: This tunnel in Geita – Tanzania was constructed during the colonial era with concrete; it has been in place for more than 50

This tunnel in Geita – Tanzania is currently used by the Nsangano Gold mine Project; the embankments of the tunnels walls are made from wood planks.



The Community Green Radio: This radio has been at the forefront of raising community awareness on the need for sound chemicals management and the wise use of consumer products.



Focused Group discussions: NAPE encourages communities to think together and come up with local and home grown solutions to community challenges.



Poor Waste Management: Disposal of wastes containing chemicals into water bodies leads to the water poisoning and to the consequent destruction of water life.



Communities supported by NAPE come back from a learning tour from Geita in Tanzania, communities share and learn from each other.



Engaging local leaders: NAPE shares information and works with local leaders on sound chemicals management.

